# FACT SHEET FOR NPDES PERMIT WA-003088-1

# MARCO SEATTLE, INC.

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## INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the state of Washington on the basis of chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the state include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty (30) days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the public notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

| GENERAL INFORMATION | |
|---|---|
| Applicant | MARCO Seattle, Inc. |
| Facility Name and Address | 2300 West Commodore Way<br>Seattle, WA 98199 |
| Type of Facility | Ship Building and Repairing |
| SIC Code | 3731 |
| Discharge Location | Lake Washington Ship Canal<br>Latitude: 47° 39' 43" N Longitude: 122° 23' 03" W |
| Water Body ID Number | WA-08-0028 |

## BACKGROUND INFORMATION

### *DESCRIPTION OF THE FACILITY*

#### HISTORY

MARCO is a ship construction and repair facility located on the south side of the ship canal, just west of Fishermen's Terminal and Salmon Bay Marina (Figure 1, App A). The property has been operated as a shipyard since 1946. In 1953, MARCO purchased its original site from Shain Manufacturing, a pleasure boat and yacht builder. MARCO later purchased 200' parcels to both the east and west, which had been operated by Draper Machine Works and Etherton Construction Co., respectively. MARCO ended the lease of a paved storage area from Salmon Bay Marina in August 2002.

#### INDUSTRIAL PROCESS

MARCO Seattle is organized into two divisions: shipbuilding and manufacturing. The shipyard division manages the west half of the site; the manufacturing division manages the east side. The manufacturing division produces winches, spools, and related hoisting equipment for the fishing industry. A site map is included as Figure 2.

MARCO's shipyard division includes ship construction and ship repair. Services are provided to about 80 - 120 vessels per year, consisting of tugboats, fishing vessels, passenger ferries, fish catcher-processors, pleasure craft, and barges. The hulls of these vessels generally are constructed of wood, steel, or aluminum. Ship repair services are provided by MARCO's shops that perform electrical and machine work, carpentry, steel fabrication, painting, sand blasting, and hydroblasting or pressure washing.

There are two steel drydocks on the west side of the property, oriented in a north-south direction.

| Operation | Tonnage | Length | Width |
|---|---|---|---|
| Drydock #2 | 500 tons | 100 Feet | 44 feet |
| Drydock #3 | 1800 | 200 | 54 |
| Boatlift | 70 | 70 | 28 |

Only minor, non-polluting repairs are performed on the lift; washing, sandblasting, and painting activities are prohibited. Vessels hauled out on the lift are transported on side rails to a location on-shore.

On average, MARCO uses about 250 tons of sand blast grit annually. About 30 to 40 percent of the grit is used in a sand blast shed on shore. The rest of the grit is used for sand blasting hulls in drydock. Only one percent of ships entering the yard needed complete hull sand blasting and repainting, with five percent needing half of the hull sandblasted and 15 percent needing one-quarter of the hull sandblasted. Spent sand blast grit is recovered from the drydock using both manual and mechanical means prior to flooding the drydock dock to launch a ship. The spent grit is stored in a covered containment bin until it is trucked to Lafarge Cement for re-use in the manufacture of cement products.

About 60% of the vessels are pressure washed. In the drydocks the washwater is trapped in sumps and pumped onshore for pretreatment in a 25 to 3 to 50 micron filtration unit prior to discharge to King County sanitary sewerage system. The sidetracked area of the yard also has a sump that collects wastewater. This wastewater is also pumped to the filtration unit for treatment and discharge to King County sanitary sewerage system.

The collection and treatment of pressure wash wastewater at MARCO eliminated the discharge of a significant industrial process wastewater stream from the ship canal. Pressure wash wastewater, whether treated or untreated, is not allowed to enter the ship canal.

An industrial process wastewater discharge also eliminated was non-contact cooling water. A new air-cooled compressor cooling system was installed in late 1997, which eliminated the need for cooling water. Non-contact cooling water is no longer used at the site nor is it discharged to the canal.

In addition to pressure wash wastewater and stormwater, another type of shipyard discharge is drydock flood water. Drydock flood water is discharged when work is completed on a vessel, and the drydock is flooded in order to float the vessel off of the drydock. Materials that may have accumulated on the floor of the drydock, such as spent abrasive grit, oil, paints, and solvents, are potential pollution sources to the receiving water. Best Management Practices (BMPs) must be used prior to flooding to prevent contamination of the receiving water.

DISCHARGE OUTFALLS

MARCO's facility has six storm water outfalls that are addressed in this permit and described as follows:

| Number | Drainage Area |
|---|---|
| SW1 | Raw steel storage and paved area west of the steel shop |
| SW2 | Utility trenches in the rolling sheds, near the sand blast shed and drydock dock 2 |
| SW3 | Raw steel storage and an unpaved area east of the steel shop (slated to be sealed during construction) |
| SW4 | Paved area east of the boat lift |
| SW5 | Parking and construction areas (slated to be sealed during construction) |
| SW6 | Unpaved area east of assembly building, near hazardous material storage area and outfitting apron |

MARCO's discharges are to the Lake Washington Ship Canal (ship canal), an urban industrial receiving water.

*PERMIT STATUS*

The previous permit for this facility was issued on June 1, 2000. The previous permit placed effluent limitations on the following discharges:

Pressure Wash Wastewater — No Discharge

Non-Contact Cooling Water — No Discharge

Drydock Flood Water

| Parameter | Maximum Daily |
|---|---|
| Oil and grease | 5 mg/L |
| Oil and grease | No visible sheen |

Stormwater

| Parameter | Maximum Daily[a] |
|---|---|
| Oil and grease | 5 mg/L[1] |
| Turbidity | 5 NTY above background |
| [a] The maximum daily effluent limitation is defined as the highest allowable daily discharge. | |

An application for permit renewal was submitted to the Department on December 27, 2001, and accepted by the Department on June 13, 2002.

*SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT*

The facility last received an inspection on February 25, 2002.

MARCO discharges have caused exceedences of the permit turbidity limit and the metals limit in the Lake Washington Ship Canal.

The Department issued Notice of Penalty No. DE 94WQ-NR4269 to MARCO on June 28, 2002, for failure to meet their compliance schedule, oil and grease effluent violations and failure to clean the drydocks of spent abrasive before submergence of the drydock. The penalty has been mitigated.

*WASTEWATER CHARACTERIZATION*

The proposed wastewater discharge is characterized for the following regulated parameters:

**Table 1: Wastewater Characterization**

| Outfall | Copper TR µg/l | Lead TR µg/l | Zinc TR µg/l | Turbidity NTU Over Background |
|---|---|---|---|---|
| SW1 | 356 | 11.1 | 1786 | 10.2 |
| SW2 | 380 | 34.1 | | 10.4 |
| SW4 | 265 | 18.5 | 147.5 | 9.8 |
| SW6 | 245 | 30 | 1114 | 10.0 |

[1] Values are average of samples taken from permit application.
January 1, 2001 to December 1, 2001. Hardness at 34 mg/L

Hydroblast Wastewater

Measurements at other shipyards and in a 1993 METRO study found hydroblast wastewater well above acute and chronic water quality criteria. Therefore, this waster is required to be treated and discharged to the King County Treatment Plant.

## PROPOSED PERMIT LIMITATIONS

Federal and state regulations require that effluent limitations set forth in an NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (chapter 173-201A WAC), Ground Water Standards (chapter 173-200 WAC), Sediment Quality Standards (chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the state of Washington were determined and included in this permit. The Department does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology.

*TECHNOLOGY-BASED EFFLUENT LIMITATIONS*

Collection, treatment, and recycle or discharge to the sewerage system of hydroblast wastewater is available technology and is used at most shipyards. Even most boatyards collect and recycle hull wash water. Hydroblast wastewater collection, treatment and recycle or discharge to the King County Sanitary Sewerage System is determined to be the technology-based limitation cited in chapter 173-220 WAC as all known, available, and reasonable methods of treatment (AKART) . All process water discharges directly to the Lake Washington Ship Canal are prohibited.

MARCO will be required to continue to follow and improve as necessary Best Management Practices (BMPs). The drydocks and cable lift drydock will be cleaned to remove spent blasting abrasives and other solid wastes including paint chips, scrap metal, wood, plastic, paper, and welding rods. Prior to undocking, the drydocks will be returned to a clean condition using cleanup methods (i.e., brooms, vacuums, etc.). The minimum amount of water flushing necessary to return the drydocks and cable lift drydock to a clean condition may be used as a final cleanup step as long as the wastewater is not directly discharged to the Lake Washington Ship Canal. No change in turbidity between drydocks flood water and the ambient water will be allowed. Also, no visible sheen will be allowed. Photographs will be taken and maintained in a logbook to demonstrate the condition of the drydock floors prior to launching a vessel.

5 mg/L has not been exceeded in the last two years of the permit cycle, than it is an achievable discharge level at MARCO. This level of control has also been achieved for drydock flood waters at Lake Union Drydock, Dakota Creek, Duwamish, FOSS, and Northlake Shipyards. Based on this achieved level of control and the best professional judgment of the Department determines an oil and grease effluent limitation of 5 mg/L is AKART for the flood water discharges from MARCO's drydocks.

To minimize oil and grease discharges, the Department will establish an oil and grease effluent limitation for stormwater from the upland sidetrack area of 5 mg/L. This level of control is AKART.

Discharges of wastewater from cooking, dishwashing, showers, and hydrotesting of piping conveyed to the King County Sanitary Sewerage System or hauling off site is determined to be AKART.

Recycling of solvents on site or off site disposal is AKART. Zero discharge from maintenance shops is determined to be AKART.

Discharge of bilge and ballast water by hauling off site for treatment or discharge to the King County Sanitary Sewerage System subsequent to approval is determined to be AKART.

Stormwater

During the interim period between the issuance date of this permit and lasting through March 31, 2003, interim limits were set for copper, lead, and zinc for outfalls SW1, SW 2, SW 4, and SW 6. These performance-based limits are based on the monitoring data collected after housekeeping and BMP's were implemented at each job site from September 2001 to July 2002. They were based on the 95% cumulative frequency of the best fit to a normal distribution curve (see Appendix A). The interim period will be effective beginning on the issuance date of this permit and lasting through no later than March 31, 2003. Mr. Cullen Vasquez, Department of Design, City of Seattle, assured me that the building permit would take at most 18 weeks and could be applied for concurrently with the SEPA requirement. SEPA should take at most 120 days or four months. This compliance schedule should give MARCO adequate time to meet water quality criteria by March 31, 2003. The final limits for copper, zinc, and lead in stormwater will be based on the Surface Water Quality Standards.

*SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS*

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the state of Washington's Water Quality Standards for Surface Waters (chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA, 1992). These criteria are designed to protect humans from cancer and other diseases and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

### NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the state of Washington.

### ANTIDEGRADATION

The state of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the state Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

### CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

### MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

## DESCRIPTION OF THE RECEIVING WATER

The facility discharges to the Lake Washington Ship Canal, which is designated as a lake class receiving water in the vicinity of the outfall. Other nearby point source outfalls include Pacific Fishermen, Fishing Vessels Owner Marine Ways, and FOSS Maritime. Significant nearby non-point sources of pollutants include marinas, urban stormwater run-off, and the combined sewerage overflow. Characteristic uses include the following:

> water supply (domestic, industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for all or substantially all uses.

The 1992 Section 305(b) report assessing statewide water quality described Lake Union and the Lake Washington Ship Canal as water quality impaired for primary contact recreation, rearing, harvesting and other shellfish spawning, salmonid spawning, and salmonid and other fish migration. Causes of the impairment are attributed to priority organics, metals, temperature, and fecal coliforms. These pollutants result from combined sewer overflow events, urban storm water, hydromodification, channelization, flow regulation, removal of riparian vegetation, streambank modifications, and historic sediment contamination.

The 1994 Section 303(d) report lists water bodies that do not meet water quality criteria. Lake Union and the ship canal are included in this report due to sediment contamination. Sediment quality degradation is an indicator of impaired beneficial uses of the water body. Sediment contamination reflects deposition of pollutants to the bottom of the lake and canal since the early part of the century from a variety of historic and current industrial point source and other non-point sources.

A study published by the Department in 1992, "Survey of Contaminated Sediments in Lake Union and Adjoining Waters" identified widespread contamination throughout the waterbody from polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and heavy metals. Washington State is in the process of developing freshwater sediment quality criteria at this time. However, most of the 22 sites sampled in 1992 exceeded several freshwater sediment guidelines derived by the Ontario Provincial Government, currently the most protective of the freshwater sediment criteria, and could be expected to severely affect organisms in the sediment.

## SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA, 1992). Criteria for this discharge are summarized below:

| | |
|---|---|
| Turbidity | less than 5 NTU above background |
| Acute Criterion for Cu | 6.2 µg/l |
| Acute Criterion for Pb | 19.6 µg/l |
| Acute Criterion for Zn | 45.8 µg/l |

The Lake Washington Ship Canal is on the Clean Water Act 303(d) list for bioassay and sediments.

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Pollutant concentrations in the proposed discharge exceed water quality criteria with technology-based controls, which the Department has determined to be AKART. The dilution factors of effluent to receiving water that occur within these zones have been determined at the critical condition by the use of CORMIX 3. The dilution factors have been determined to be (from Appendix B):

| | Acute | Chronic |
|---|---|---|
| Aquatic Life SW2 and SW3 | 8:1 | 60:1 |
| Aquatic Life SW6 | 18:1 | 56:1 |

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near-field) or at a considerable distance from the point of discharge (far-field). Toxic pollutants, for example, are near-field pollutants--their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as BOD is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

The derivation of surface water quality-based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water.

The critical condition for the Lake Washington Ship Canal is 2.0 cm/sec based on drogue release.

The impacts of metals were determined as shown below, using the dilution factors at critical conditions described above.

Turbidity--Due to the potential fluctuations in turbidity of the receiving water and the effluent, turbidity monitoring is required to assess compliance with the water quality criteria for turbidity. The criteria for turbidity allow no more than a 5 NTU increase over background turbidity.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempted from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

The following toxics were determined to be present in the discharge: heavy metals. A reasonable potential analysis (see Appendix C) was conducted on these parameters to determine whether or not effluent limitations would be required in this permit.

The determination of the reasonable potential for metals to exceed the water quality criteria was evaluated with procedures given in EPA, 1991, at the critical condition. The parameters used in the critical condition modeling are as follows: acute dilution factor 8.1 for discharge points SW2 and SW3 and 18.1 for SW6; chronic dilution factor 60.1 for SW2 and SW3 and 56.1 for SW6. A nominal background concentration of 0.01 µ/L was used because measured concentrations were not available. Even with virtually no background, MARCO stormwater discharges exceed criteria.

The proposed permit contains a compliance schedule for meeting the water quality-based limits for metals and turbidity. Prior to authorizing this compliance schedule, the Department required the Permittee to evaluate the possibility of complying with the limitations by changes other than construction. The Permittee responded that mechanisms such as change of the facility operation or pollution prevention would not enable compliance with the limits.

Water quality criteria for metals in chapter 173-201A WAC are based on the dissolved fraction of the metal.

Construction of the wastewater facility will conform with the approved September 1998 "Engineering Report Stormwater Collection and Treatment System." MARCO will submit to the Department for approval a revised engineering report for a significant change in the treatment technology to meet surface water quality criteria.

MARCO's preferred alternative is indirect discharge of stormwater to surface water through the City of Seattle combined sanitary and storm sewer leading to the King County sanitary sewerage system. The pumps and collection system will be sized to the peak hour flow of the 5-year, 24-hour storm event. Direct discharges will occur about once every five (5) years. The basic treatment is an equalization and retention tank and a pump station. Other alternatives such as end of pipe treatment must be approved by the Department through submission of a revised engineering report.

### WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in chapter 173-205 WAC. Therefore, no whole effluent toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

### HUMAN HEALTH

Washington's Water Quality Standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge is unlikely to contain chemicals regulated for human health.

### SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400). Baseline sediment sampling was completed in 1990.

*GROUND WATER QUALITY LIMITATIONS*

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

*COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED JUNE 1, 2000*

| Parameter | Existing Limits | Proposed Limits |
|---|---|---|
| **Non-Contact Cooling Water** | No Discharge | No Discharge |
| **Pressure Wash Wastewater** | No Discharge | No Discharge |
| **Drydock Flood Water** | | |
| Oil and Grease | 5 mg/L Daily Maximum | 5 mg/L Daily Maximum |
| **Stormwater** | | |
| Oil and grease | 5 mg/L | 5 mg/L |
| Turbidity | 5 NTU above background | 5 NTU above background |
| Total Suspended Solids | None | None |
| pH | None | None |
| Copper (TR) | None | Interim - Effective date of new permit to 3/31/03<br>SW1 - 402ug/L<br>SW2 - 425 ug/L<br>SW4 - 961 ug/L<br>SW 6 - 403 ug/L<br>Final - 4/1/02 to 6/30/07<br>6.2 µg/l |
| Lead (TR) | None | Interim - Effective date of new permit to 3/31/03<br>SW1 - 18ug/L<br>SW2 - 19 ug/L<br>SW4 - 412 ug/L<br>SW 6 - 28 ug/L<br>Final - 4/1/02 to 6/30/07<br>19.6 µg/l |
| Zinc (TR) | None | Interim- Effective date of new permit to 3/31/03<br>SW1 – 3166 ug/L<br>SW2 - 2850 ug/L<br>SW4 - 3474 ug/L<br>SW 6 – 2088 ug/L<br>Final – 4/1/02 to 6/30/07<br>45.8 µg/l |

The lighter more difficult to control solids measured as turbidity determined as light diffraction are more difficult to control than the solids measured as total suspended solid determined by mass. If turbidity is controlled, then TSS will be controlled. The elimination of the TSS limit and monitoring will not increase pollutant discharges. Past monitoring has demonstrated pH from shipyards is not a pollutant of concern.

## MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

Monitoring for metals, oil and grease, and turbidity is being required to further characterize the effluent. These pollutants could have a significant impact on the quality of the surface water.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

This permit requires the Permittee to monitor the storm water outfalls on a twice per month schedule consistent with Pacific Fishermen and Fishing Vessel Owners Marine Ways. The application data for new outfall SW7 does not show elevated levels of any pollutants, and storm water in this area passes through an API oil-water separator prior to discharge. Because the potential for pollution from this area is low, compliance monitoring is not required.

### *LAB ACCREDITATION*

With the exception of certain parameters, the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories.*

## OTHER PERMIT CONDITIONS

### *REPORTING AND RECORDKEEPING*

The conditions of S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 273-220-210).

### *SOLID WASTE PLAN*

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. The plan must be submitted to the local permitting agency for approval, if necessary, and to the Department.

*GENERAL CONDITIONS*

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending, or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes, or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the Permittee to control its production in order to maintain compliance with its permit. Condition G10 prohibits the reintroduction of removed substances back into the effluent. Condition G11 states that the Department will modify or revoke and reissue the permit to conform to more stringent toxic effluent standards or prohibitions. Condition G12 incorporates by reference all other requirements of 40 CFR 122.41 and 122.42. Condition G13 notifies the Permittee that additional monitoring requirements may be established by the Department. Condition G14 requires the payment of permit fees. Condition G15 describes the penalties for violating permit conditions.

## PERMIT ISSUANCE PROCEDURES

*PERMIT MODIFICATIONS*

The Department may modify this permit to impose numerical limitations, if necessary, to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

*RECOMMENDATION FOR PERMIT ISSUANCE*

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this proposed permit be expired on June 30, 2007. This is consistent with the Cedar-Green Water Quality Management Area (WQMA) cycle.

## REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

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1994. Permit Writer's Manual. Publication Number 92-109

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1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

## APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public Notice of Application (PNOA) was published on September 4, 2001**,** and September 11, 2001, in *The Seattle Times* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department published a Public Notice of Draft (PNOD) on November 12, 2002, in *The Seattle Times* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 - 160th Avenue SE
Bellevue WA 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (425) 649-7276, or by writing to the address listed above.

This permit and fact sheet were written by Donna Ortiz de Anaya, Environmental Engineer.

## APPENDIX B--GLOSSARY

**Acute Toxicity**--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

**AKART**--An acronym for "all known, available, and reasonable methods of treatment."

**Ambient Water Quality**--The existing environmental condition of the water in a receiving water body.

**Average Monthly Discharge Limitation**--The average of the measured values obtained over a calendar month's time.

**Best Management Practices (BMPs)**--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site run-off, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

**$BOD_5$**--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The $BOD_5$ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the Federal Clean Water Act.

**Bypass**--The intentional diversion of waste streams from any portion of a treatment facility.

**Chronic Toxicity**--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

**Clean Water Act (CWA)**--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

**Compliance Inspection - Without Sampling**--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

**Compliance Inspection - With Sampling**--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

**Construction Activity**--Clearing, grading, excavation, and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

**Critical Condition**--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

**Dilution Factor**--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction, e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

**Engineering Report**--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

**Fecal Coliform Bacteria**--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

**Grab Sample**--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

**Industrial Wastewater**--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

**Major Facility--**A facility discharging to surface water with an EPA rating score of >80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Maximum Daily Discharge Limitation**--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

**Method Detection Level (MDL)--**The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

**Minor Facility--**A facility discharging to surface water with an EPA rating score of <80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Mixing Zone**--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (chapter 173-201A WAC).

**National Pollutant Discharge Elimination System (NPDES)**--The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/state permits issued under both state and federal laws.

**pH**--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

**Quantitation Level (QL)--**A calculated value five times the MDL (method detection level).

**Responsible Corporate Officer**--A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

**Technology-based Effluent Limit**--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

**Total Suspended Solids (TSS)**--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

**State Waters**--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

**Stormwater**--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

**Upset**--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

**Water Quality-based Effluent Limit**--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

## APPENDIX C--TECHNICAL CALCULATIONS

## APPENDIX D--RESPONSE TO COMMENTS